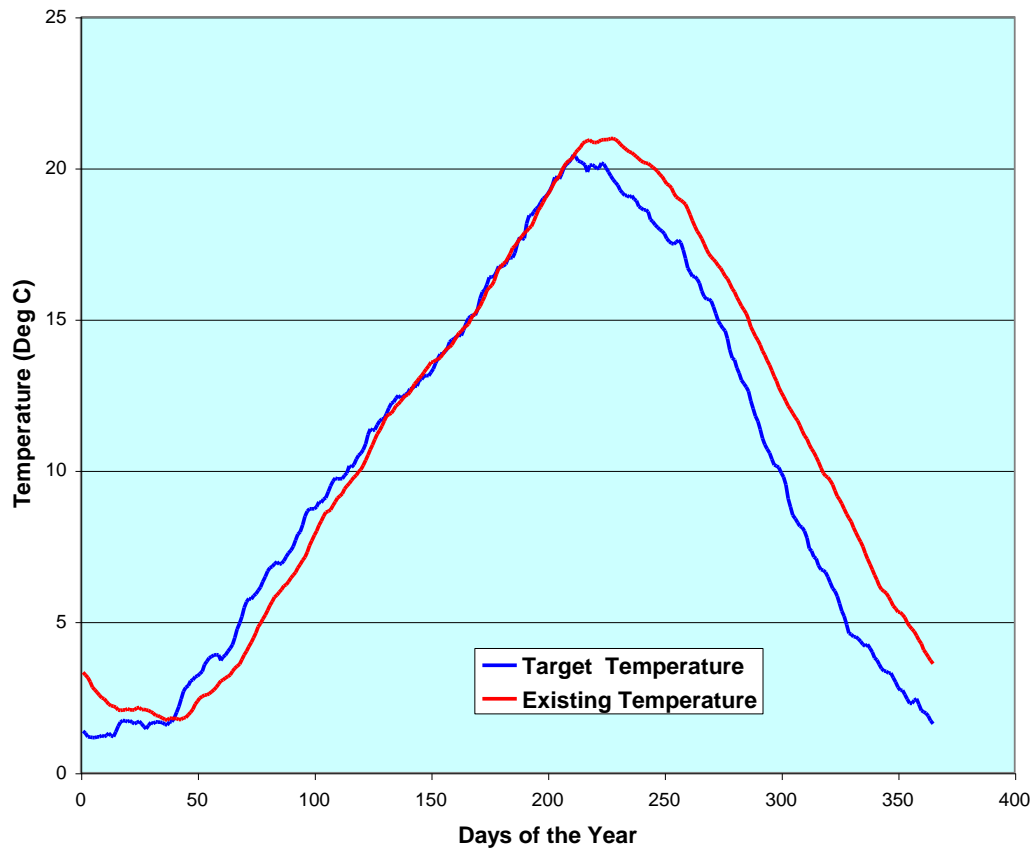


**Columbia/Snake Rivers Temperature TMDL  
Preliminary Draft September 13, 2002  
Figures**



**Figure S-1: Existing and TMDL Target Temperatures at John Day Dam.**

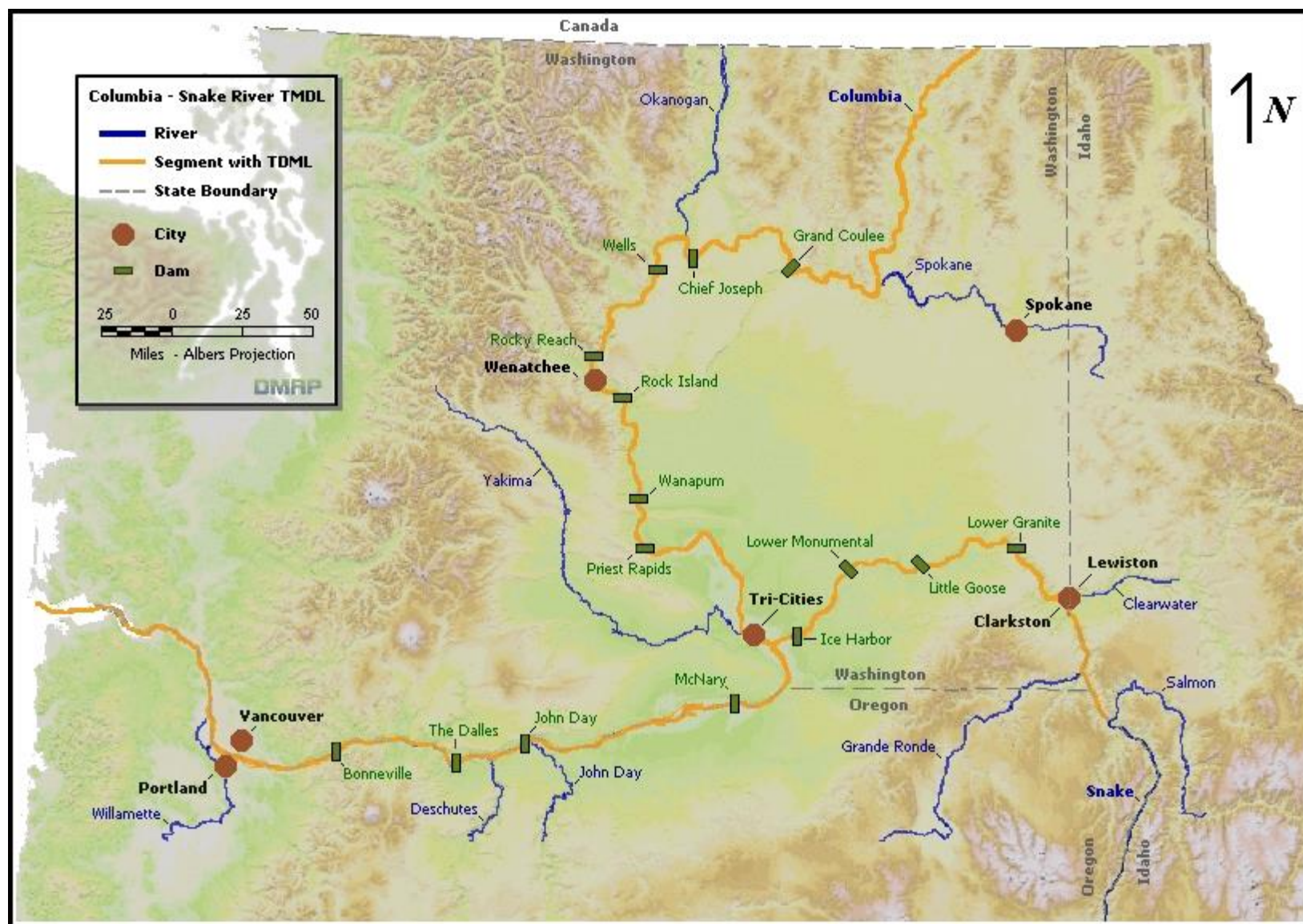
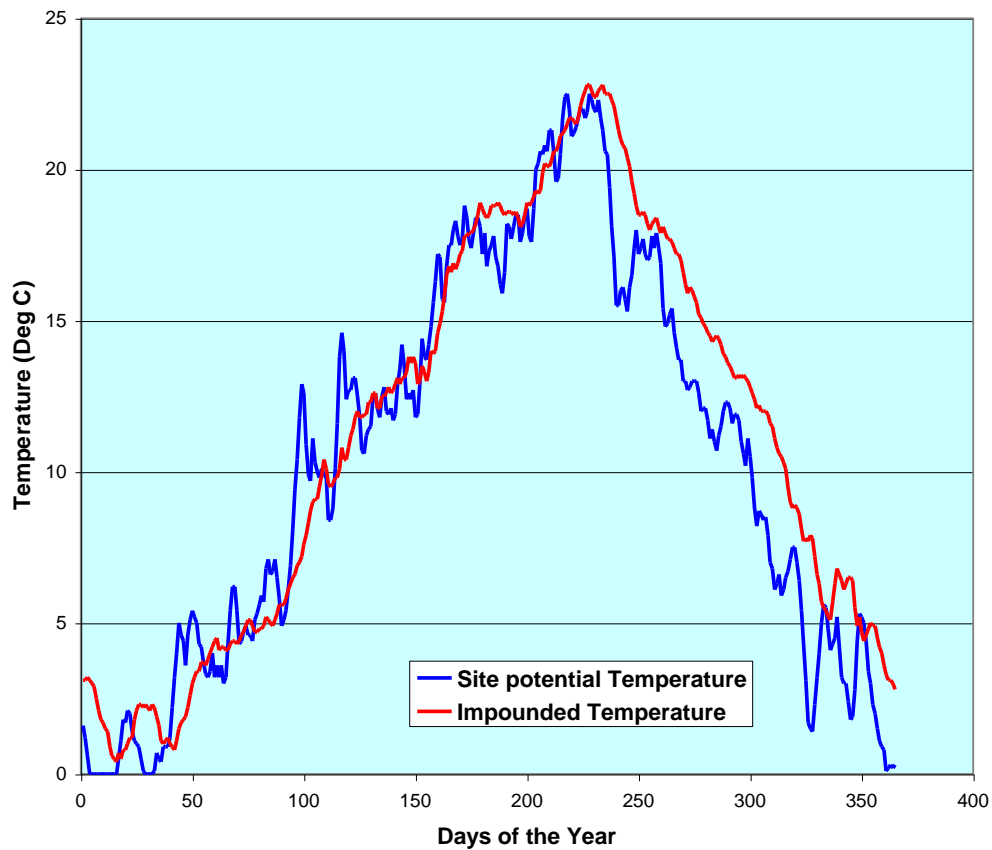
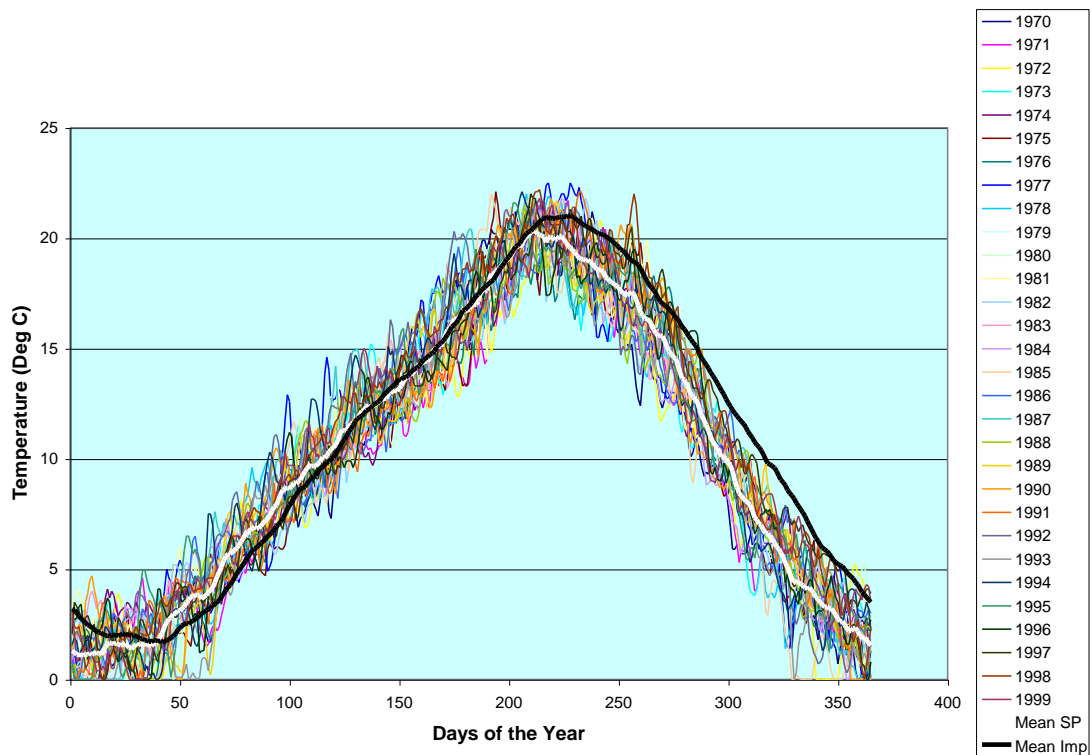


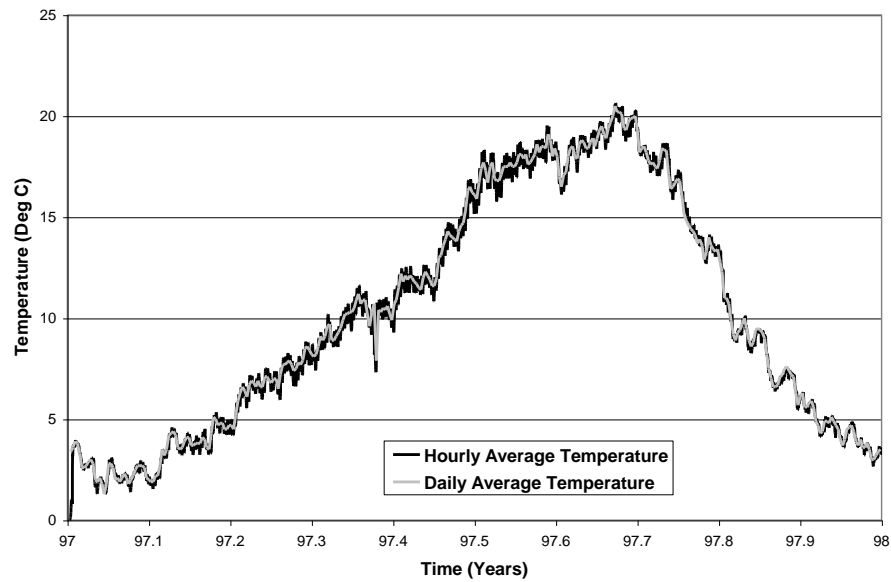
Figure 1-1: The Reaches of the Columbia and Snake Rivers Covered by the TMDL.



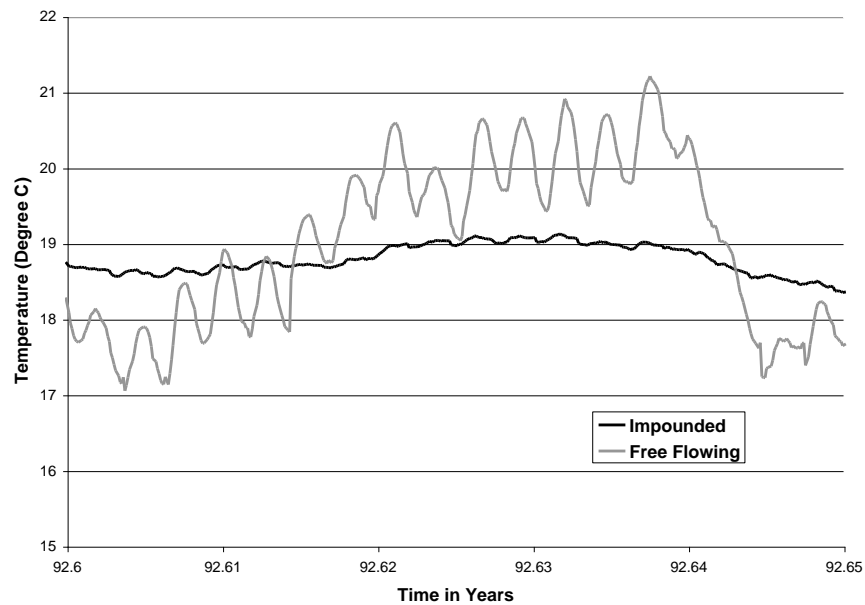
**Figure 3-1: Simulated Site Potential and Impounded Temperatures at John Day Dam in 1977.**



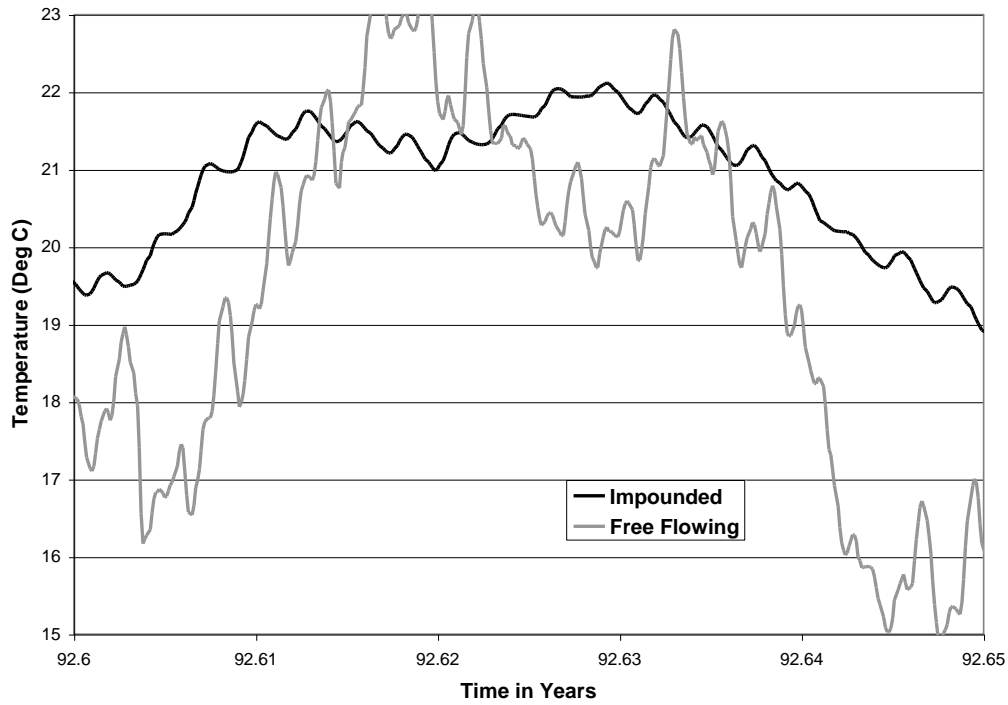
**Figure 3-2: Simulated Site Potential Temperatures at John Day Dam from 1970 through 1999.**



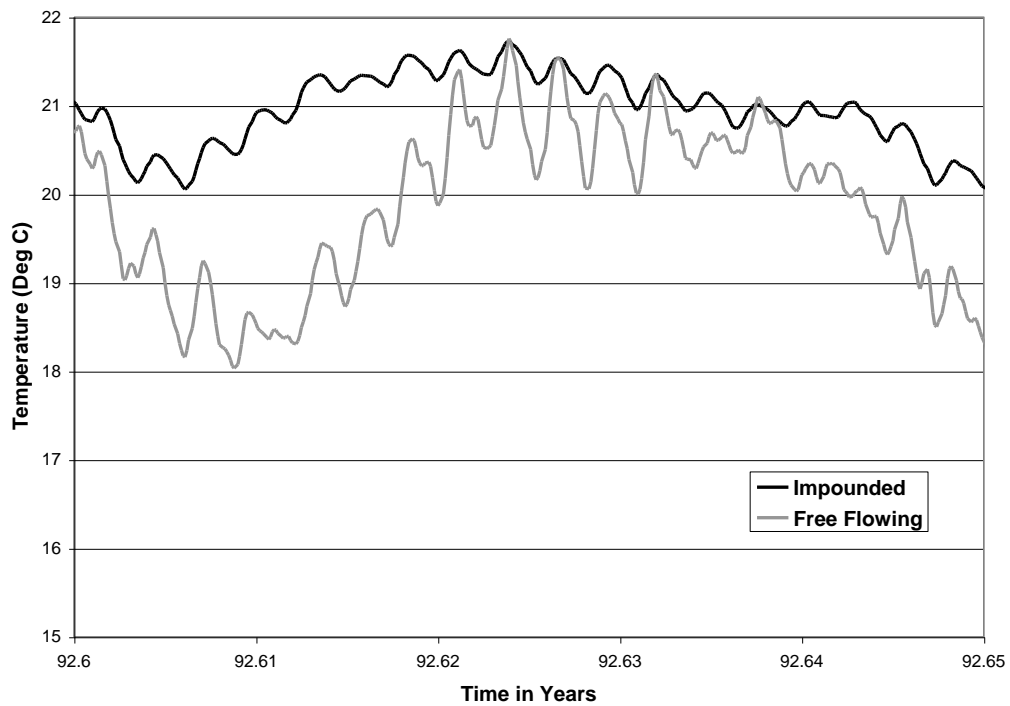
**Figure 3-3: Simulations of Daily Average Temperature and Hourly Average Temperature in the Free Flowing River at Lower Granite Dam in 1997.**



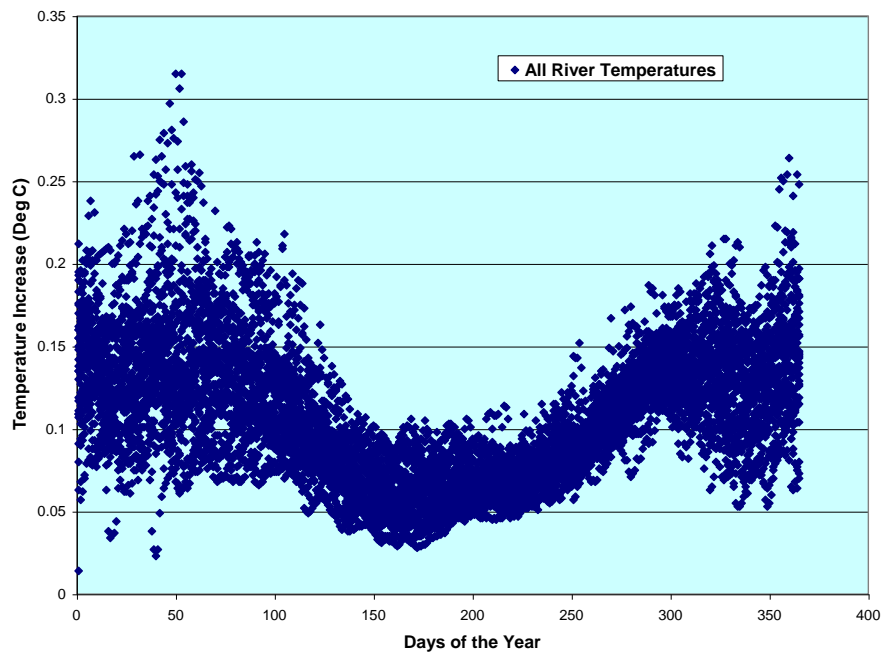
**Figure 3-4: Simulated Hourly Average Temperature in the Impounded and Free Flowing Rivers at Grand Coulee Dam from Aug 7, 1992 to August 25, 1992.**



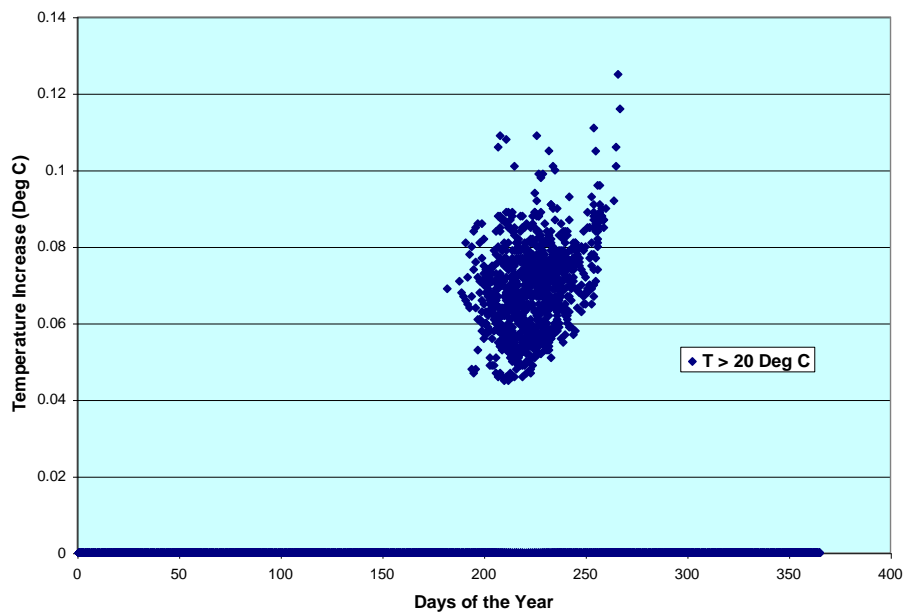
**Figure 3-5: Simulated Hourly Average Temperature in the Impounded and Free Flowing Rivers at Lower Granite Dam from August 7, 1992 to August 25, 1992.**



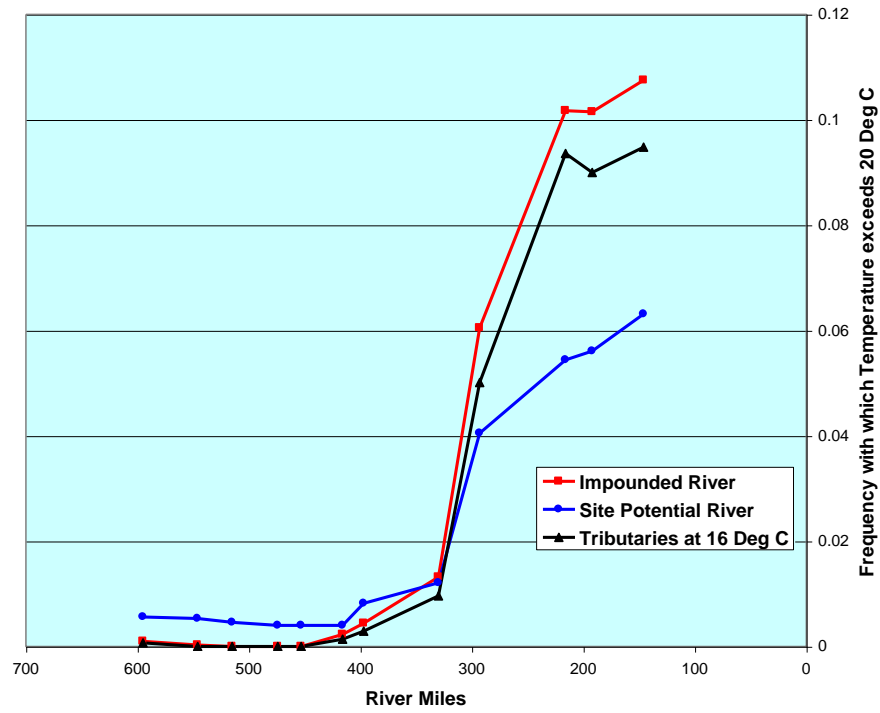
**Figure 3-6: Simulated Hourly Average Temperature in the Impounded and Free Flowing Rivers at Bonneville Dam from August 7, 1992 to August 25, 1992.**



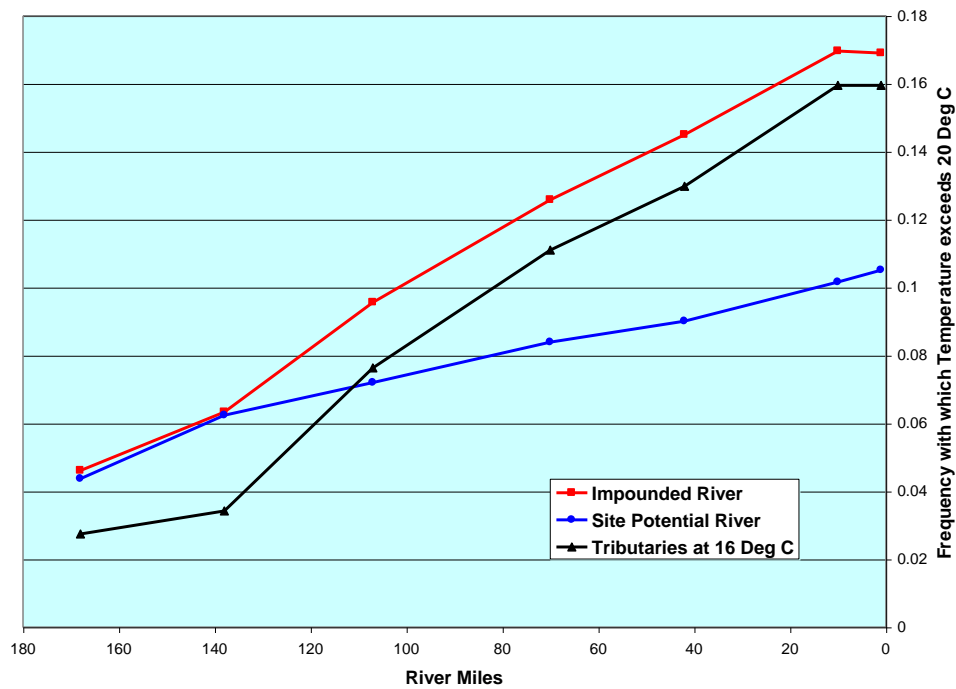
**Figure 4-1: Simulated Increases in Temperature at River Mile 42 in the Columbia River due to Existing Point Sources plus 20 MW at each Target Site from 1970 Through 1999.**



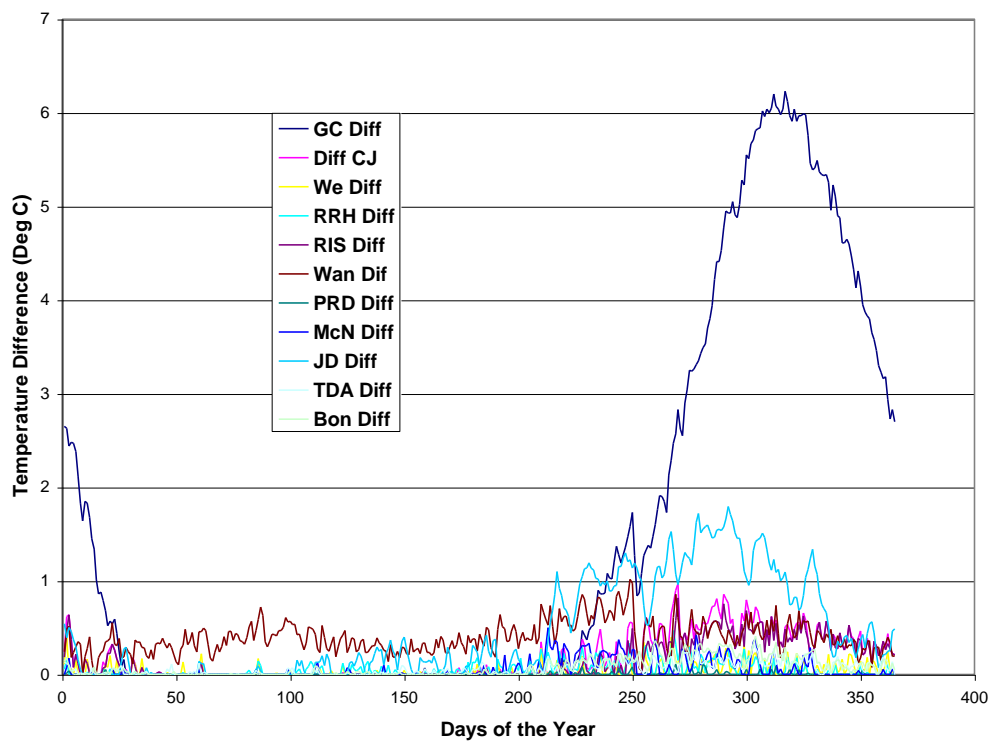
**Figure 4-2: Simulated Increases in Temperature at River Mile 42 in the Columbia River due to Existing Point Sources Plus 20 MW at Each Target Site when Site Potential Temperature Exceeded 20 °C from 1970 through 1999.**



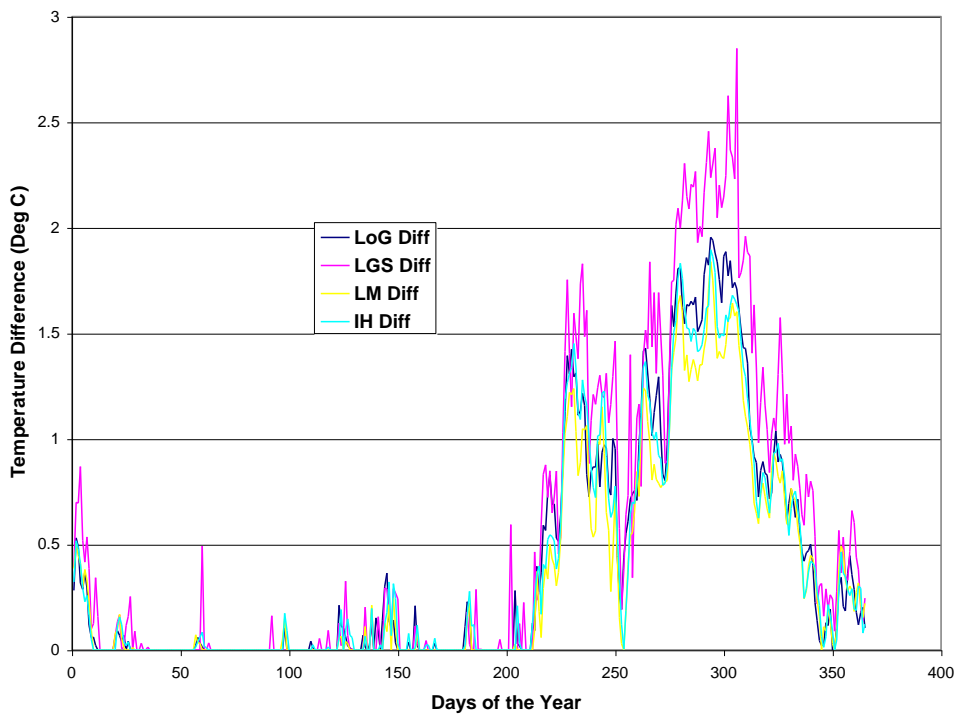
**Figure 4-3: Frequency of Predicted Temperature Excursions over 20 °C in the Columbia River for the Existing Impounded River, the Site Potential River and the Impounded River with Tributary Temperatures Constrained to 16 °C.**



**Figure 4-4: Frequency of Predicted Temperature Excursions over 20 °C in the Snake River for the Existing Impounded River, the Site Potential River and the Impounded River with Tributary Temperatures Constrained to 16 °C.**

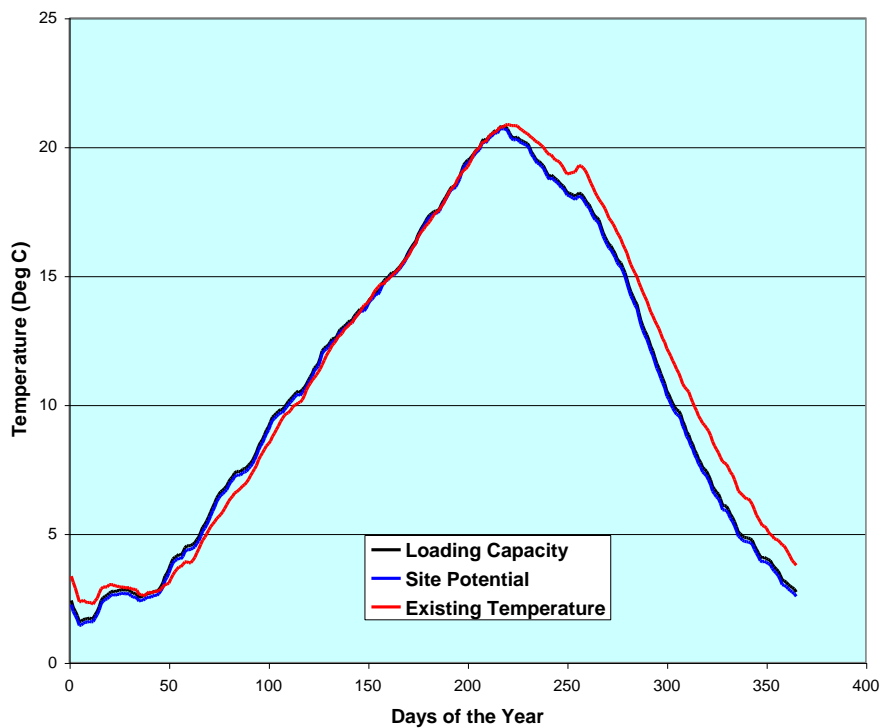


**Figure 4-5: Effects of Individual Dams on Daily Cross Sectional Average Temperature in the Columbia River.**

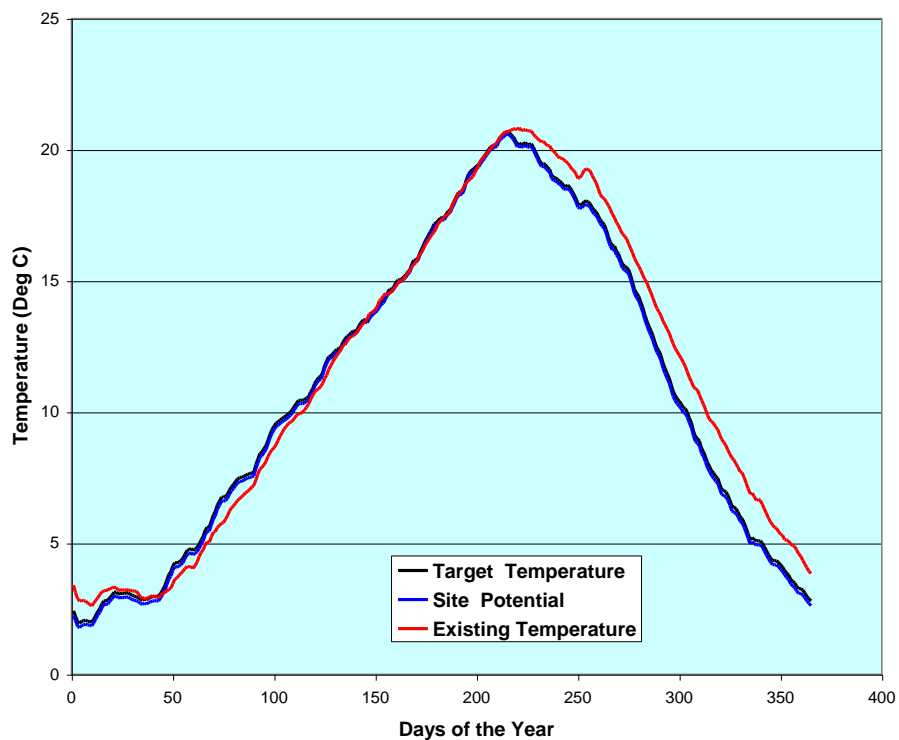


**Figure 4-6: Effects of Individual Dams on Daily Cross Sectional Average Temperature in the Snake River.**

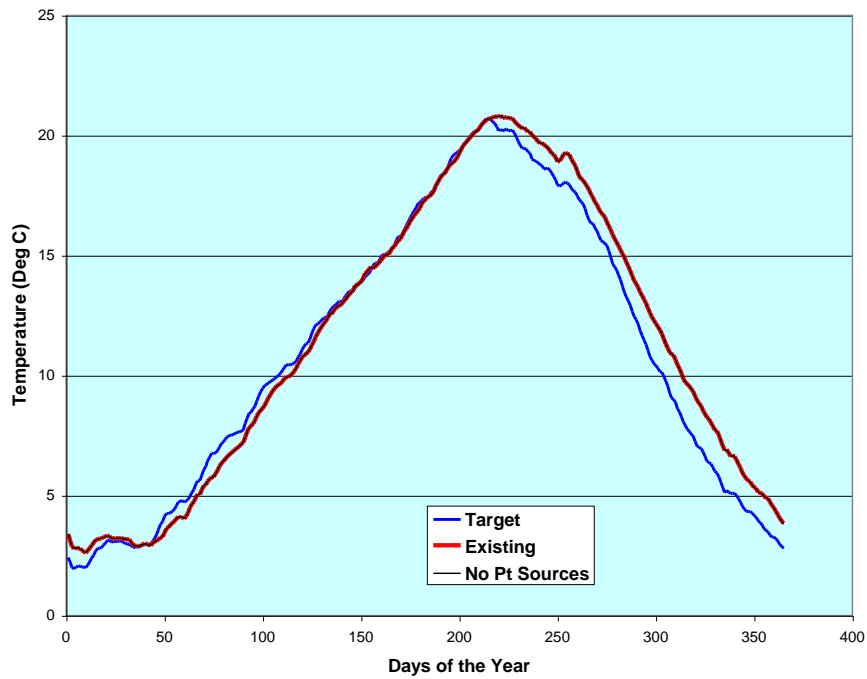




**Figure 5-1: Water Temperature at Columbia River Mile 4 Showing Existing Temperature, Site Potential Temperature and the Loading Capacity Temperature.**



**Figure 5-2: Water Temperature at Columbia River Mile 42 Showing Existing Conditions, Site Potential Conditions and Conditions Under the Proposed TMDL.**



**Figure 5-3: Water Temperature at Columbia River Mile 42 Showing Existing Conditions, Conditions with Point Source Thermal Loads Removed and Conditions under the Proposed TMDL.**